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STEP

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TITLE: (1) Tantalum extraction with tributylphosphate (TBP)

SOURCE: (5) Akademiya nauk Kazakhskoy SSR. Institut metallurgii i obogashcheniya. Trudy. v. 5, 1962, Tsvetnaya metallurgiya, 125 - 129

TEXT: To investigate tantalum extraction, the gravimetric method was used for large tantalum amounts and the colorimetric method for smaller quantities. The authors investigated tantalum extraction, depending on the concentration of hydrofluoric acid, the concentration of metal in the solution, and TBP concentration in the extrahent. To determine the composition of solutions with low tantalum concentration, four initial solutions were used whose compositions were in g/l: HF - 4; Ta - 0.113; HF - 4; H<sub>2</sub>SO<sub>4</sub> - 3; Ta - 0.244; HF - 12; Ta - 0.2; HF - 16; Ta - 0.2. TBP concentration varied between 3.3 to 0.73 mole/liter. It was found that the limit concentration of tantalum in the tributylphosphate, in the presence of 3 mole/liter sulfuric acid in the initial solution, is 1 mole/liter (225 g/l Ta<sub>2</sub>O<sub>5</sub>). Without sulfuric acid the limit tan-

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Tantalum extraction with tributylphosphate (TBP)

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talum content in the extrahent is 0.81 mole/liter (189 g/l Ta<sub>2</sub>O<sub>5</sub>). It was established that tantalum was transferred to the organic phase in the form of solvates: HTaF<sub>6</sub>·3TBP and H<sub>2</sub>TaF<sub>7</sub>·3TBP. There are 3 figures and 2 tables.

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